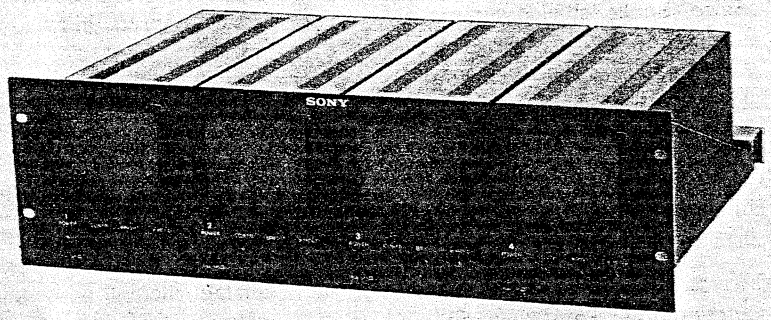
PVM-411

US and Canadian Model



VIDEO MONITOR

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DU CIRCUIT QUI SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT SONT IDENTIFIÉS DANS CE MANUEL. SUIVRE LES PROCÉDURES QUAND LES COMPOSANTS CRITIQUES SONT REMPLACÉS OU LE FONCTIONNEMENT IMPROPRE EST SUSPECTÉ.

SPECIFICATIONS

Television System:	EIA standards
Picture Tube:	9.4cm, 4" (screen measured diagonally) 50° deflection
Semiconductors:	76 transistors and 80 diodes
Automatic Controls:	AFC (automatic frequency control) AVR (automatic voltage regulator)
Video input:	non-composite: 0.7V (p-p) ±6 dB, positive composite: 1.0V (p-p) ±6 dB, positive
Sync input:	4.0V (p-p) ±6 dB, negative
Video/sync input impedance:	High impedance for loop-through; 75 ohms terminated
Resolution:	280 lines, vertical (at center) 400 lines, horizontal (at center)
Anode Voltage:	9kV at zero beam current
Power Requirements:	120V ac, 60Hz
Power Consumption:	56W (max)
Dimensions:	Approx. 48.3 (w) x 13.3 (h) x 41.0 (d) cm Approx. 19 (w) x 5 1/4 (h) x 16 1/8 (d) inches
Net Weight:	Approx. 14.2kg (31 lb 5 oz)
Accessories Supplied:	Instruction manual

SONY®

SERVICE MANUAL

SAFETY CHECK-OUT
(US Model Only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

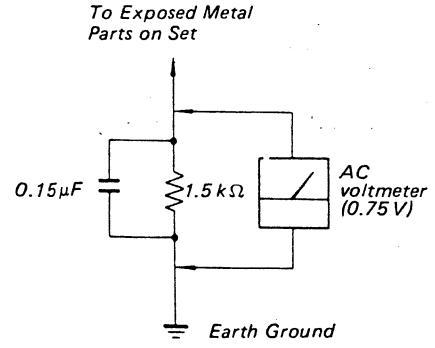


Fig. A. Using an AC voltmeter to check AC leakage.

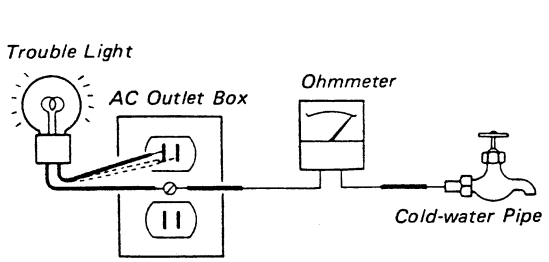
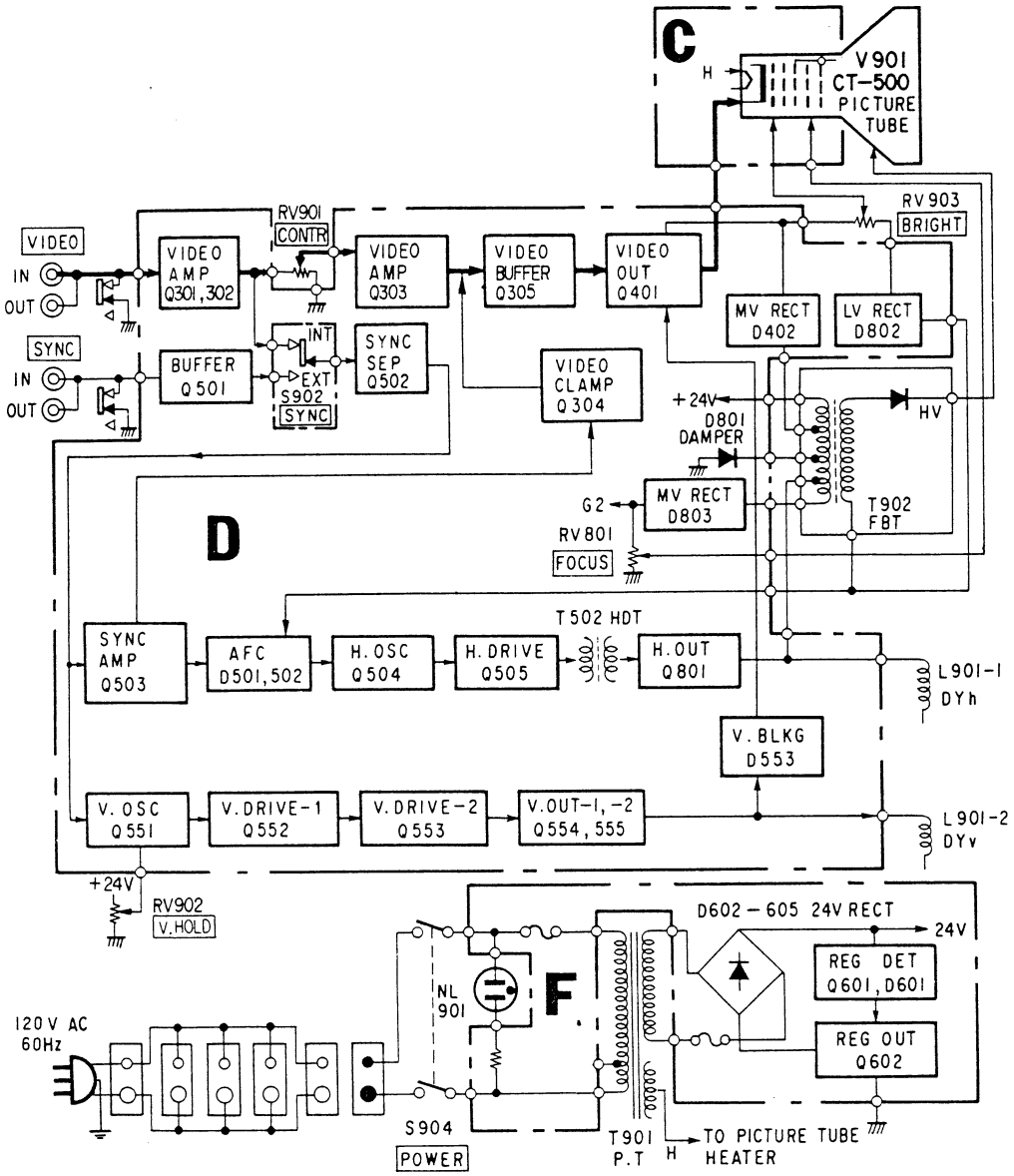
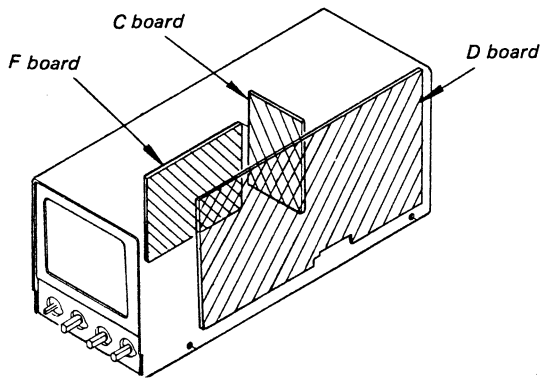


Fig. B. Checking for earth ground.

SECTION 1
BLOCK DIAGRAM



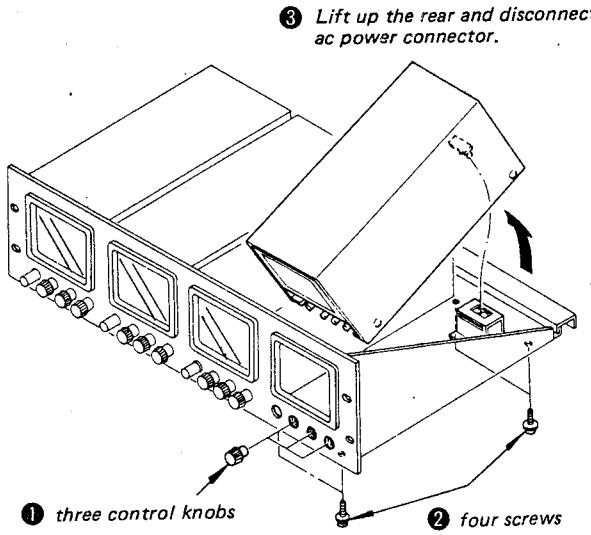
CIRCUIT BOARDS LOCATION



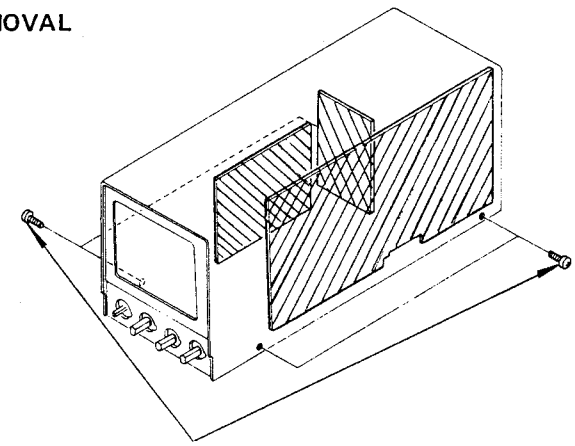
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

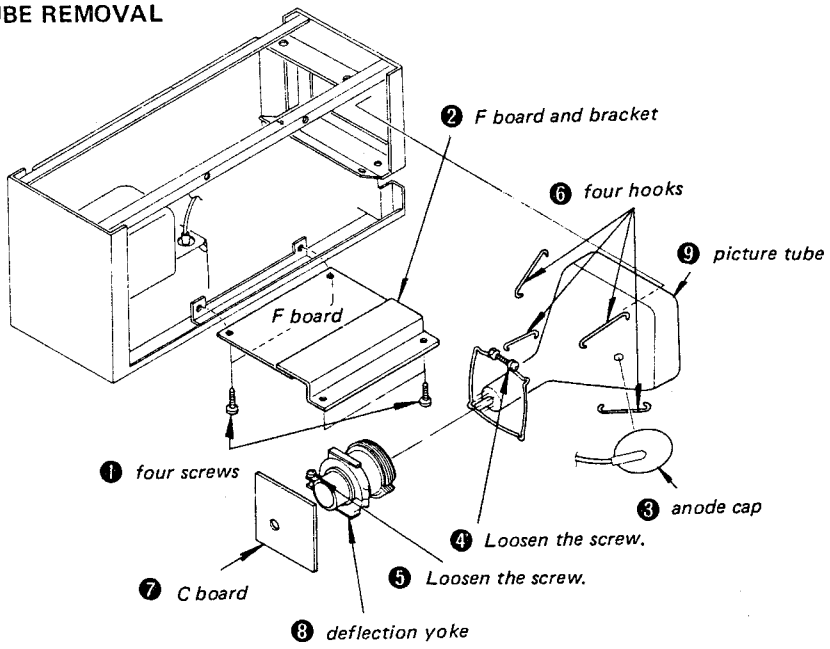
2-1. UNIT REMOVAL



2-2. COVER REMOVAL



2-3. PICTURE TUBE REMOVAL

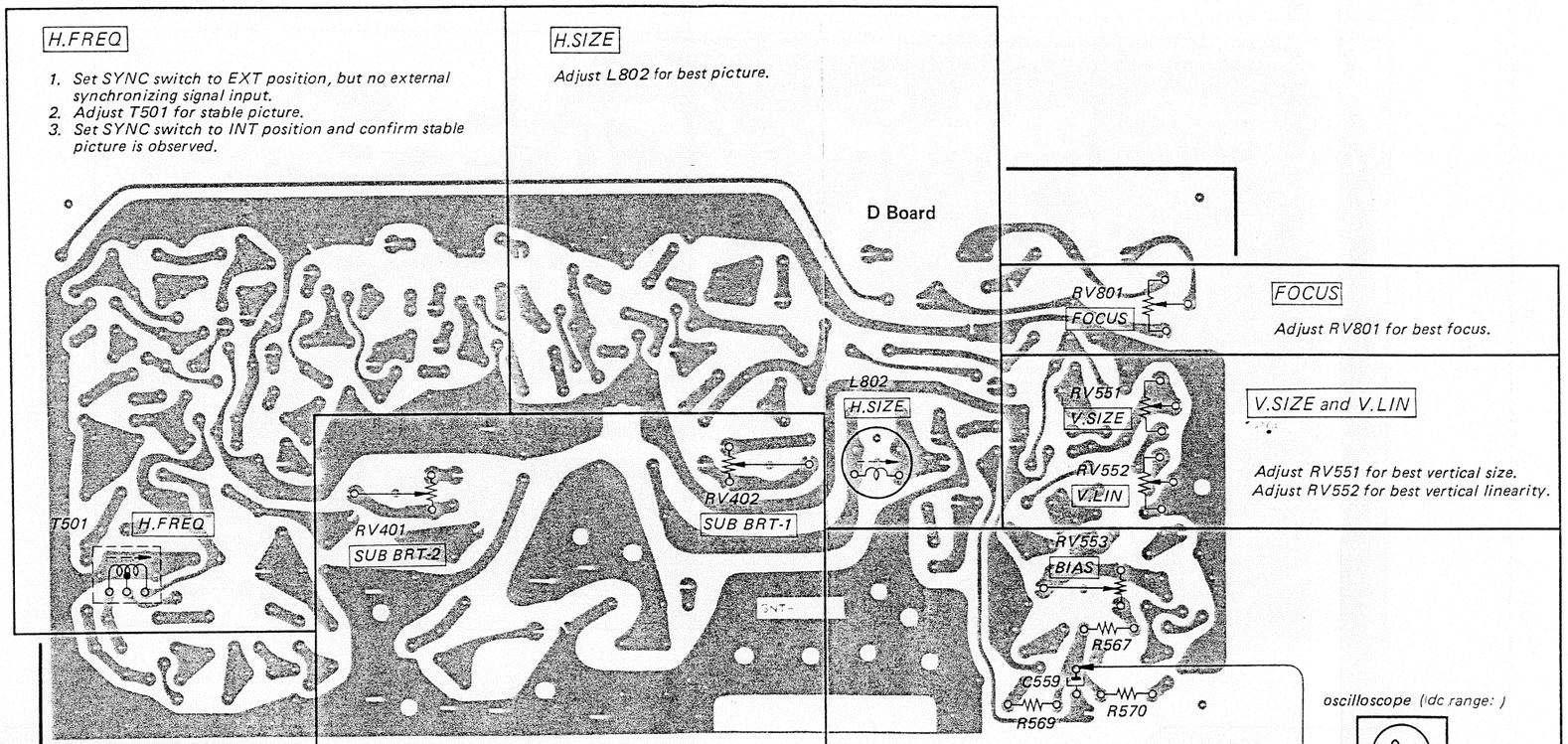


SECTION 3
CIRCUIT ADJUSTMENTS

Note:

- Test Equipment Required
  1. Oscilloscope
  2. Video tuner SONY model VTU-200 or equivalent
  3. Pattern generator

- Preparations
  1. Feed in a video signal.
  2. Set CONTR, BRIGHT and V.HOLD controls for best picture.
  3. These adjustments should be performed with the rated power supply voltage.


H.FREQ
1. Set SYNC switch to EXT position, but no external synchronizing signal input.
2. Adjust T501 for stable picture.
3. Set SYNC switch to INT position and confirm stable picture is observed.
H.SIZE
Adjust L802 for best picture.
D Board
T501
H.FREQ
RV401
SUB BRT-2
RV402
SUB BRT-1
L802
H.SIZE
RV801
FOCUS
FOCUS
Adjust RV801 for best focus.
RV551
V.SIZE
RV552
V.LIN
V.SIZE and V.LIN
Adjust RV551 for best vertical size.
Adjust RV552 for best vertical linearity.
RV553
BIAS
R567
C559
R570
R569
oscilloscope (Idc range:)
SUB BRT-1, SUB BRT-2
Note: When perform this adjustment, compare the incorrect set with a normal set, and adjust the incorrect set for same brightness tone of the normal set.
A indicates a normal set.
B indicates the incorrect set, necessary adjustments.
1. Set BRIGHT controls of A and B to mechanical center. Set CONTR controls of A and B to fully counterclockwise.
2. Adjust RV402 of B for the same brightness tone as A.
3. Set CONTR controls of A and B to fully clockwise.
4. Adjust RV401 of B for the same brightness tone as A.
5. Set CONTR controls and BRIGHT controls of A and B to mechanical center.
Confirm the brightness tone of both sets is the same.
6. If above step is not satisfied, repeat above procedure 1 to 5.
BIAS
1. Observe vertical synchronizing wave-form across C559 with a oscilloscope.
2. Adjust RV553 as shown below.
3 V
0 V

SECTION 4
DIAGRAMS

[VIDEO AMP
SYNC AMP
DEF AMP] **D** **C** [PICTURE TUBE] **F** [POWER SUPPLY]

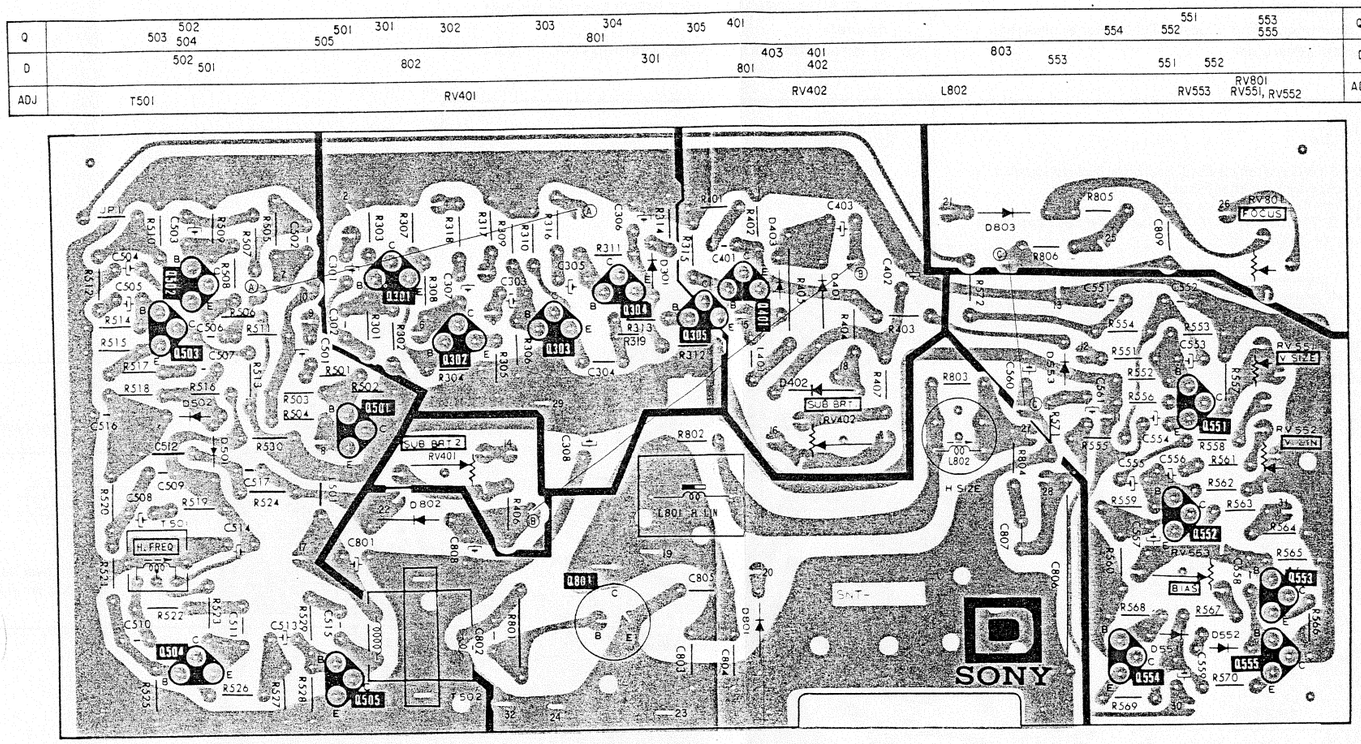
4-1. MOUNTING DIAGRAM

– Conductor Side –

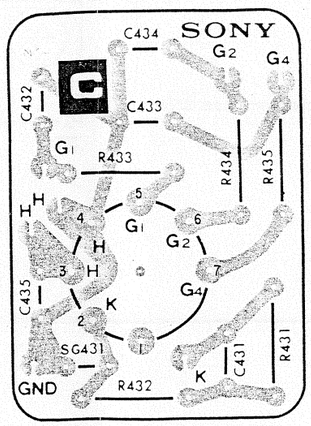
A B C D E F

1 2 3 4 5

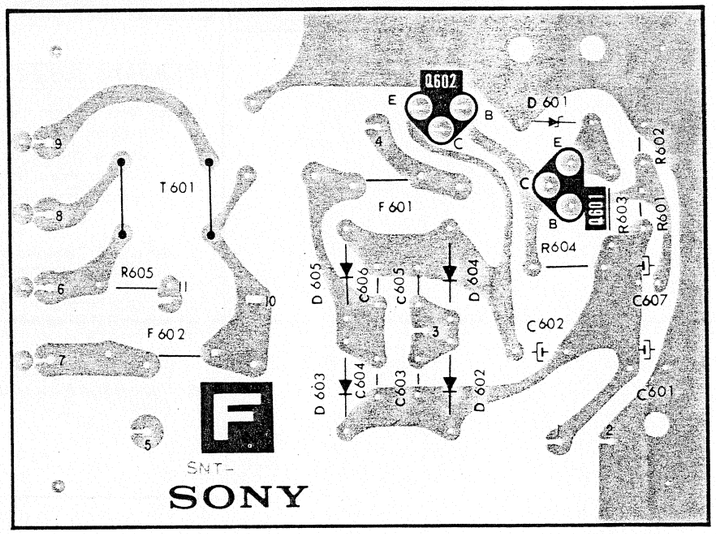
– D Board –



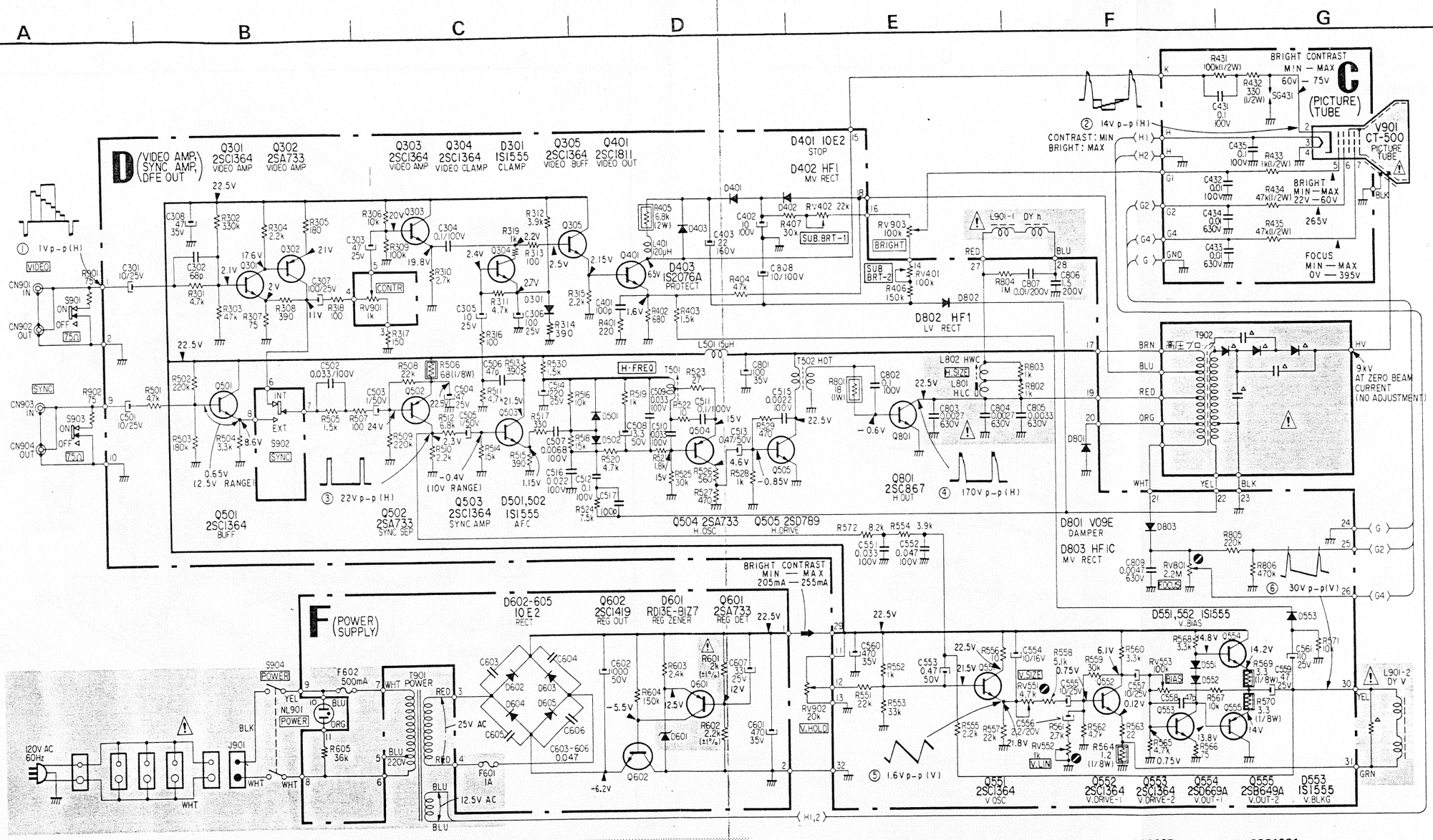
– C Board –



– F Board –



4-2. SCHEMATIC DIAGRAM

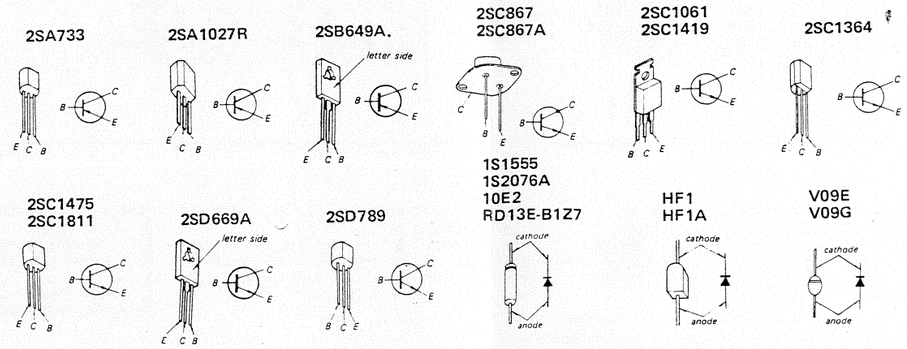


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

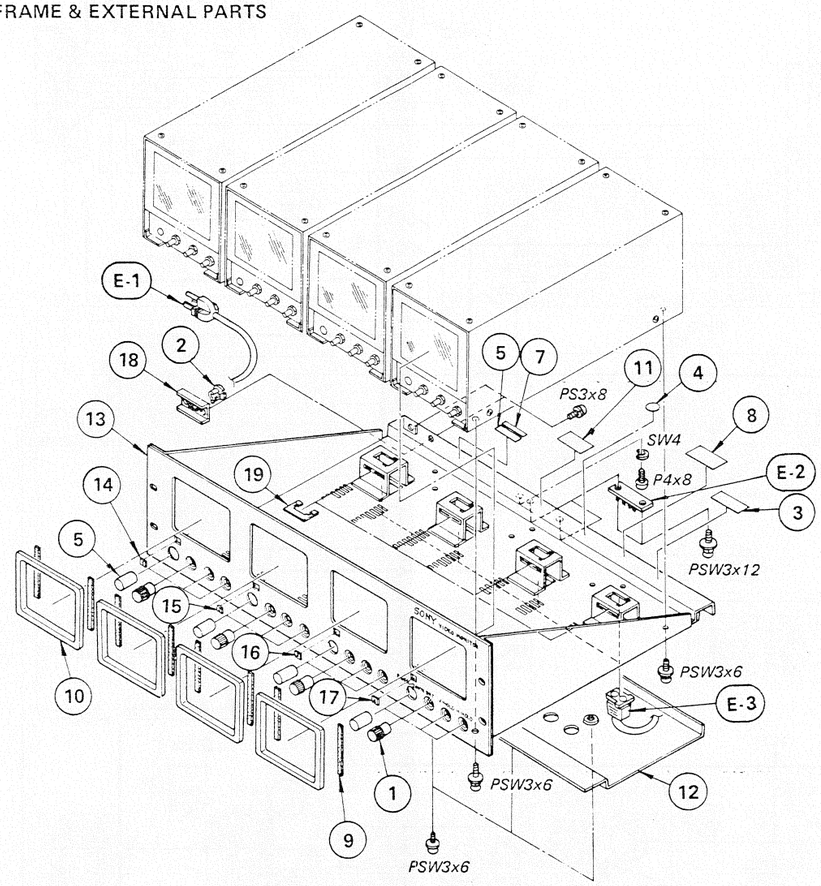
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ: 1000Ω; MΩ: 1000kΩ
- : nonflammable resistor.
- △: internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 20,000-ohm-per-volt VOM.
  BRIGHT, CONTR ---mechanical center
- Readings are taken with a color-bar signal input.
- : adjustment for repair.
- : adjustable without removing cabinet.



SECTION 5
EXPLODED VIEWS

(1) FRAME & EXTERNAL PARTS



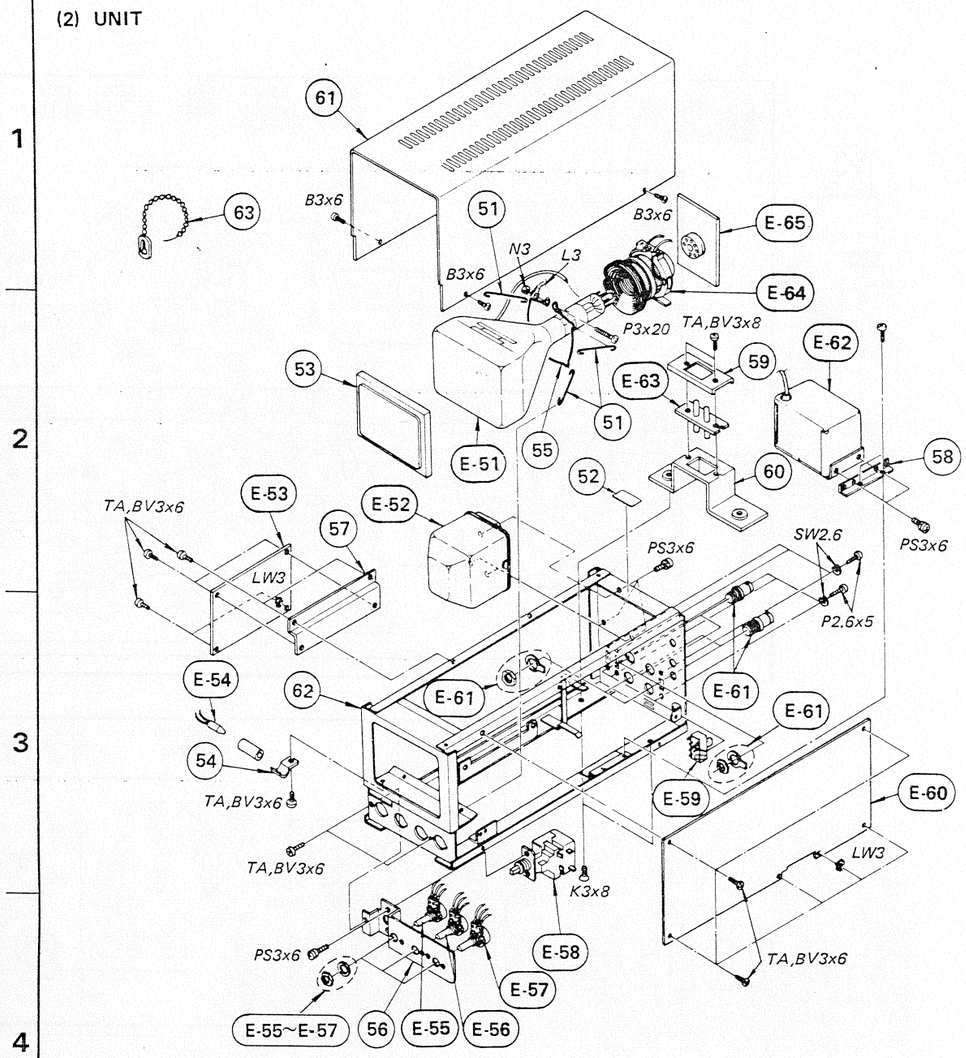
No	Part No	Description	Remark
1	X-4318-505-0	KNOB ASSY, CONTROL	
2	⚠2-045-063-00	STOPPER, CORD	
3	3-701-829-01	LABEL, X-RAY (CND)	
4	3-701-915-01	LABEL, UL (USA)	
5	3-701-984-11	BUTTON, SWITCH	
6	3-703-043-21	LABEL, CAUTION, MAIN	
7	3-703-209-00	LABEL, COMMERCIAL USE	
8	♦:4-017-439-00	LABEL, X-RAY (USA)	
9	4-018-903-00	CUSHION, RUBBER	
10	4-018-936-00	MASK	
11	♦:4-025-802-00	LABEL, MODEL NUMBER (LARGE)	
12	♦:4-025-816-00	ENCLOSURE	
13	♦:4-025-819-00	BRACKET, RACK MOUNTING	
14	4-025-823-01	PLATE, NUNBER -1	
15	4-025-823-11	PLATE, NUNBER -2	
16	4-025-823-21	PLATE, NUNBER -3	
17	4-025-823-31	PLATE, NUNBER -4	
18	♦:4-025-824-00	HOLDER, BUSHING	
19	4-302-735-00	SPACER, INTER-LOCK	

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- As to the part numbered with E-, refer to the electrical parts list.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(2) UNIT



No	Part No	Description	Remark
51	2-069-704-00	HOOK, BRACKET	
52	♦:3-701-944-00	LABEL, CHASSIS F (CND)	
53	4-003-819-11	PROTECTOR	
54	4-018-928-00	HOLDER, LAMP	
55	4-018-959-00	RING	
56	♦:4-025-810-00	BRACKET, CONTROL	
57	♦:4-025-811-00	HEAT SINK, REG OUT	
58	♦:4-025-812-00	BRACKET, HV BLOCK	
59	♦:4-025-813-00	RETAINER, 2P TERMINAL	
60	♦:4-025-815-00	BRACKET, 2P TERMINAL	
61	4-025-817-00	COVER	
62	♦:4-025-818-00	CHASSIS	
63	4-308-870-00	CLIP, LEAD WIRE	

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- As to the part numbered with E-, refer to the electrical parts list.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 6
ELECTRICAL PARTS LIST

F C D D

Ref.No	Part No	Description				Remark
	♦:1-602-511-00	F BOARD				E-53
	1-533-087-00	HOLDER, FUSE				
		CAPACITOR				
C601	1-123-348-00	ELECT	470MF	20%	35V	
C602	1-123-364-00	ELECT	1000MF	20%	50V	
C603	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C604	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C605	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C606	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C607	1-123-331-00	ELECT	33MF	20%	25V	
		DIODE				
D601⚠	=>8-719-113-24	DIODE RD13E-B1Z				
D602	8-719-200-02	DIODE 10E2				
D603	8-719-200-02	DIODE 10E2				
D604	8-719-200-02	DIODE 10E2				
D605	8-719-200-02	DIODE 10E2				
		FUSE				
F601	⚠.1-532-536-00	FUSE, 1A				
F602	⚠.1-532-580-00	FUSE, 0.5A				
		TRANSISTOR				
Q601	=>8-729-612-77	TRANSISTOR 2SA1027R				
Q602	=>8-729-316-12	TRANSISTOR 2SC1061				
		RESISTOR				
R601	⚠.1-214-139-00	METAL	2K	1%	1/4W	
R602	⚠.1-214-140-00	METAL	2.2K	1%	1/4W	
R603	1-246-482-00	CARBON	2.4K	5%	1/4W	
R604	1-246-525-00	CARBON	150K	5%	1/4W	
R605	⚠.1-246-510-00	CARBON	36K	5%	1/4W	

****

	♦:1-602-509-00	C BOARD				E-65
	1-526-521-XX	SOCKET, PICTURE TUBE				
		CAPACITOR				
C431	1-108-638-00	MYLAR	0.1MF	10%	100V	
C432	1-108-657-11	MYLAR	0.01MF	20%	100V	
C433	1-129-733-51	FILM	0.01MF	20%	630V	
C434	1-129-733-51	FILM	0.01MF	20%	630V	
C435	1-108-638-00	MYLAR	0.1MF	10%	100V	
		RESISTOR				
R431	1-202-621-00	COMPOSITION	100K	5%	1/2W	
R432	1-202-561-00	COMPOSITION	330	5%	1/2W	
R433	1-202-573-00	COMPOSITION	1K	5%	1/2W	
R434	1-202-613-00	COMPOSITION	47K	5%	1/2W	
R435	1-202-613-00	COMPOSITION	47K	5%	1/2W	

Ref.No	Part No	Description				Remark
		DISCHARGING GAP				
SG431	1-519-063-XX	DISCHARGING GAP				

****

	♦:A-1340-325-A	D BOARD, COMPLETE				E-60
		CAPACITOR				
C301	1-123-329-00	ELECT	10MF	20%	25V	
C302	1-101-889-61	CERAMIC	68PF	10%	50V	
C303	1-123-332-00	ELECT	47MF	20%	25V	
C304	1-108-638-00	MYLAR	0.1MF	10%	100V	
C305	1-123-329-00	ELECT	10MF	20%	25V	
C306	1-123-333-00	ELECT	100MF	20%	25V	
C307	1-123-333-00	ELECT	100MF	20%	25V	
C308	1-123-344-00	ELECT	47MF	20%	35V	
C401	1-102-975-00	CERAMIC	100PF	10%	50V	
C402	1-123-384-00	ELECT	10MF	20%	100V	
C403	1-123-253-00	ELECT	22MF		160V	
C501	1-123-329-00	ELECT	10MF	20%	25V	
C502	1-108-632-11	MYLAR	0.033MF	10%	100V	
C503	1-123-352-00	ELECT	1MF	20%	50V	
C504	1-123-332-00	ELECT	47MF	20%	25V	
C505	1-123-352-00	ELECT	1MF	20%	50V	
C506	1-101-881-61	CERAMIC	47PF	10%	50V	
C507	1-108-624-00	MYLAR	0.0068MF	10%	100V	
C508	1-123-354-00	ELECT	3.3MF	20%	50V	
C509	1-108-632-11	MYLAR	0.033MF	10%	100V	
C510	1-108-632-11	MYLAR	0.033MF	10%	100V	
C511	1-108-638-00	MYLAR	0.1MF	10%	100V	
C512	1-108-638-00	MYLAR	0.1MF	10%	100V	
C513	1-123-351-00	ELECT	0.47MF	20%	50V	
C514	1-123-334-00	ELECT	220MF	20%	25V	
C515	1-108-618-11	MYLAR	0.0022MF	10%	100V	
C516	1-108-630-11	MYLAR	0.022MF	10%	100V	
C517	1-102-975-00	CERAMIC	100PF	10%	50V	
C551	1-108-632-11	MYLAR	0.033MF	10%	100V	
C552	1-108-634-11	MYLAR	0.047MF	10%	100V	
C553	1-123-351-00	ELECT	0.47MF	20%	50V	
C554	1-131-158-52	TANTALUM	10MF	20%	16V	
C555	1-123-329-00	ELECT	10MF	20%	25V	
C556	1-131-361-00	TANTALUM	2.2MF	20%	20V	
C557	1-123-329-00	ELECT	10MF	20%	25V	
C558	1-101-881-61	CERAMIC	47PF	10%	50V	
C559	1-123-332-00	ELECT	47MF	20%	25V	
C560	1-123-348-00	ELECT	470MF	20%	35V	
C561	1-123-329-00	ELECT	10MF	20%	25V	
C801	1-123-345-00	ELECT	100MF	20%	35V	
C802	1-108-638-00	MYLAR	0.1MF	10%	100V	
C803	⚠.1-129-928-00	MYLAR	0.0027MF		630V	
C804	⚠.1-129-928-00	MYLAR	0.0027MF		630V	
C805	⚠.1-129-708-00	FILM	0.0033MF	10%	630V	
C806	⚠.1-108-321-00	MYLAR	1.5MF	10%	200V	
C807	1-108-692-11	MYLAR	0.01MF	10%	200V	
C808	1-123-384-00	ELECT	10MF	20%	100V	
C809	1-129-731-11	FILM	0.0047MF	20%	630V	
		DIODE				
D301	8-719-815-55	DIODE 1S1555				
D401	8-719-200-02	DIODE 10E2				
D402	=>8-719-305-15	DIODE GH3F				
D403	8-719-923-76	DIODE 1S2076A				
D501	8-719-815-55	DIODE 1S1555				
D502	8-719-815-55	DIODE 1S1555				
D551	8-719-815-55	DIODE 1S1555				
D552	8-719-815-55	DIODE 1S1555				
D553	8-719-815-55	DIODE 1S1555				
D801	=>8-719-900-95	DIODE VO9G				
D802	=>8-719-305-15	DIODE GH3F				
D803	8-719-320-31	DIODE HF1C				
		COIL				
L401	1-407-706-00	MICRO INDUCTOR 120UH				
L501	1-407-695-11	MICRO INDUCTOR 15UH				
L801	⚠.1-459-081-00	COIL, HORIZONTAL LINEARITY(HLC)				
L802	⚠.1-459-046-00	COIL, HORIZONTAL (HWC)				
		TRANSISTOR				
Q301	8-729-663-47	TRANSISTOR 2SC1364				
Q302	=>8-729-612-77	TRANSISTOR 2SA1027R				
Q303	8-729-663-47	TRANSISTOR 2SC1364				
Q304	8-729-663-47	TRANSISTOR 2SC1364				
Q305	8-729-663-47	TRANSISTOR 2SC1364				
Q401	8-765-012-20	TRANSISTOR 2SC1811				
Q501	8-729-663-47	TRANSISTOR 2SC1364				
Q502	=>8-729-612-77	TRANSISTOR 2SA1027R				
Q503	8-729-663-47	TRANSISTOR 2SC1364				
Q504	=>8-729-612-77	TRANSISTOR 2SA1027R				
Q505	8-760-413-10	TRANSISTOR 2SC1475				
Q551	8-729-663-47	TRANSISTOR 2SC1364				
Q552	8-729-663-47	TRANSISTOR 2SC1364				
Q553	8-729-663-47	TRANSISTOR 2SC1364				
Q554	8-729-306-92	TRANSISTOR 2SD669A				
Q555	8-729-304-92	TRANSISTOR 2SB649A				
Q801	=>8-765-132-00	TRANSISTOR 2SC867A				
		RESISTOR				
R301	1-246-489-00	CARBON	4.7K	5%	1/4W	
R302	1-246-533-00	CARBON	330K	5%	1/4W	
R303	1-246-513-00	CARBON	47K	5%	1/4W	
R304	1-246-481-00	CARBON	2.2K	5%	1/4W	
R305	1-246-455-00	CARBON	180	5%	1/4W	
R306	1-246-497-00	CARBON	10K	5%	1/4W	
R307	1-246-446-00	CARBON	75	5%	1/4W	
R308	1-246-463-00	CARBON	390	5%	1/4W	
R309	1-246-521-00	CARBON	100K	5%	1/4W	
R310	1-246-483-00	CARBON	2.7K	5%	1/4W	
R311	1-246-489-00	CARBON	4.7K	5%	1/4W	
R312	1-246-487-00	CARBON	3.9K	5%	1/4W	
R313	1-246-449-00	CARBON	100	5%	1/4W	
R314	1-246-463-00	CARBON	390	5%	1/4W	
R315	1-246-481-00	CARBON	2.2K	5%	1/4W	
R316	1-246-449-00	CARBON	100	5%	1/4W	
R317	1-246-453-00	CARBON	150	5%	1/4W	
R318	1-246-449-00	CARBON	100	5%	1/4W	
R319	1-246-473-00	CARBON	1K	5%	1/4W	
R401	1-246-457-00	CARBON	220	5%	1/4W	
R402	1-246-469-00	CARBON	680	5%	1/4W	
R403	1-246-477-00	CARBON	1.5K	5%	1/4W	
R404	1-246-513-00	CARBON	47K	5%	1/4W	
R405	1-206-684-00	METAL	6.8K	5%	2W	F
R406	1-246-525-00	CARBON	150K	5%	1/4W	
R407	1-246-508-00	CARBON	30K	5%	1/4W	
R501	1-246-489-00	CARBON	4.7K	5%	1/4W	
R502	1-246-529-00	CARBON	220K	5%	1/4W	
R503	1-246-527-00	CARBON	180K	5%	1/4W	
R504	1-246-485-00	CARBON	3.3K	5%	1/4W	
R505	1-246-477-00	CARBON	1.5K	5%	1/4W	
R506	1-247-032-00	CARBON	68	5%	1/8W	F
R507	1-246-449-00	CARBON	100	5%	1/4W	
R508	1-246-505-00	CARBON	22K	5%	1/4W	
R509	1-246-529-00	CARBON	220K	5%	1/4W	
R510	1-246-481-00	CARBON	2.2K	5%	1/4W	
R511	1-246-489-00	CARBON	4.7K	5%	1/4W	
R512	1-246-493-00	CARBON	6.8K	5%	1/4W	
R513	1-246-463-00	CARBON	390	5%	1/4W	
R514	1-246-501-00	CARBON	15K	5%	1/4W	
R515	1-246-463-00	CARBON	390	5%	1/4W	
R516	1-246-497-00	CARBON	10K	5%	1/4W	
R517	1-246-461-00	CARBON	330	5%	1/4W	
R518	1-246-501-00	CARBON	15K	5%	1/4W	
R519	1-246-473-00	CARBON	1K	5%	1/4W	
R520	1-246-489-00	CARBON	4.7K	5%	1/4W	
R521	1-246-479-00	CARBON	1.8K	5%	1/4W	
R522	1-246-425-00	CARBON	10	5%	1/4W	
R523	1-246-435-00	CARBON	27	5%	1/4W	
R524	1-246-494-00	CARBON	7.5K	5%	1/4W	
R525	1-246-508-00	CARBON	30K	5%	1/4W	
R526	1-246-467-00	CARBON	560	5%	1/4W	
R527	1-246-465-00	CARBON	470	5%	1/4W	
R528	1-246-473-00	CARBON	1K	5%	1/4W	
R529	1-246-465-00	CARBON	470	5%	1/4W	
R530	1-246-477-00	CARBON	1.5K	5%	1/4W	
R551	1-246-505-00	CARBON	22K	5%	1/4W	
R552	1-246-473-00	CARBON	1K	5%	1/4W	
R553	1-246-509-00	CARBON	33K	5%	1/4W	
R554	1-246-487-00	CARBON	3.9K	5%	1/4W	
R555	1-246-481-00	CARBON	2.2K	5%	1/4W	
R556	1-246-425-00	CARBON	10	5%	1/4W	

NOTE:

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- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref.No	Part No	Description				Remark
R557	1-246-505-00	CARBON	22K	5%	1/4W	
R558	1-246-490-00	CARBON	5.1K	5%	1/4W	
R559	1-246-508-00	CARBON	30K	5%	1/4W	
R560	1-246-485-00	CARBON	3.3K	5%	1/4W	
R561	1-246-483-00	CARBON	2.7K	5%	1/4W	
R562	1-246-489-00	CARBON	4.7K	5%	1/4W	
R563	1-246-433-00	CARBON	22	5%	1/4W	
R564	1-246-979-00	CARBON	1.2	5%	1/8W	F
R565	1-246-489-00	CARBON	4.7K	5%	1/4W	
R566	1-246-446-00	CARBON	75	5%	1/4W	
R567	1-246-497-00	CARBON	10K	5%	1/4W	
R568	1-246-485-00	CARBON	3.3K	5%	1/4W	
R569	1-246-980-00	CARBON	3.3	5%	1/8W	F
R570	1-246-980-00	CARBON	3.3	5%	1/8W	F
R571	1-246-497-00	CARBON	10K	5%	1/4W	
R572	1-246-495-00	CARBON	8.2K	5%	1/4W	
R801	1-212-375-00	METAL	18	5%	1W	F
R802	1-246-473-00	CARBON	1K	5%	1/4W	
R803	1-246-473-00	CARBON	1K	5%	1/4W	
R804	1-246-545-00	CARBON	1M	5%	1/4W	
R805	1-246-529-00	CARBON	220K	5%	1/4W	
R806	1-246-537-00	CARBON	470K	5%	1/4W	

VARIABLE RESISTOR

RV401	1-224-222-12	RES, ADJ, CARBON 100K
RV402	1-222-786-12	RES, ADJ, CARBON 22K
RV551	1-226-099-00	RES, ADJ, CARBON 4.7K
RV552	1-226-029-00	RES, ADJ, CARBON 1K
RV553	1-224-222-12	RES, ADJ, CARBON 100K
RV801	1-226-263-00	RES, ADJ, CARBON 2.2M

TRANSFORMER

T501	1-405-760-00	COIL, OSC; HBT
T502	1-437-034-00	TRANSFORMER, HORIZONTAL DRIVE; HDT

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MISCELLANEOUS

⚠	1-534-517-00	CORD, POWER	E-1
⚠	1-536-476-00	4P EXTENSION TERMINAL STRIP	E-2
⚠	1-551-287-00	CORD, POWER; WITH INTER-LOCK	E-3
CN901	1-561-167-00	CONNECTOR, COAXIAL	E-61
CN902	1-561-167-00	CONNECTOR, COAXIAL	E-61
CN903	1-561-167-00	CONNECTOR, COAXIAL	E-61
CN904	1-561-167-00	CONNECTOR, COAXIAL	E-61
J901	⚠ 1-536-497-00	TERMINAL STRIP	E-63
L901	⚠ 1-451-186-00	DEFLECTION YOKE	E-64
NL901	⚠ 1-519-100-00	LAMP, NEON	E-54
RV901	1-222-484-11	RES, VAR, CARBON 1K	E-55
RV902	1-222-388-11	RES, VAR, CARBON 20K	E-57
RV903	1-222-640-00	RES, VAR, CARBON 100K	E-56
R901	1-244-646-11	RES, CARBON 75	
R902	1-244-646-11	RES, CARBON 75	
S901	1-514-478-11	SWITCH, SLIDE	E-59
S902	1-514-478-11	SWITCH, SLIDE	E-59
S903	1-514-478-11	SWITCH, SLIDE	E-59
S904	⚠ 1-552-895-00	SWITCH, PUSHBUTTON	E-58
T901	⚠ 1-446-684-00	TRANSFORMER, POWER	E-52
T902	⚠ 1-453-086-00	HIGH-VOLTAGE BLOCK ASSY	E-62
V901	⚠ =>8-731-104-35	PICTURE TUBE, CT-500	E-51

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ACCESSRIES AND PACKING MATERIALS

Part No	Description	Remark
3-701-631-00	BAG, POLYETHYLENE	
4-025-805-00	CARTON	
4-025-806-00	BAG, PROTECTION	
4-025-807-00	CUSHION (UPPER FRONT)	
4-025-808-00	CUSHION (UPPER REAR)	
4-025-809-00	CUSHION (LOWER)	
4-491-213-21	INSTRUCTION	
4-495-929-21	MANUAL, INSTRUCTION	
7-822-282-01	IBM, CARD (WHITE)	
7-822-282-02	IBM, CARD (PINK)	
7-822-282-03	IBM, CARD (GREEN)	

NOTE:

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RESISTORS
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COILS
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STANDARD PARTS LIST

**** CAPACITOR ELECT ****

uF	6.3V	10V	16V	25V	35V	50V	100V	160V	250V	350V
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
0.47						1-121-726				
1.0						391	1-123-249	1-123-252	1-123-003	1-121-168
2.2						450	250	026		1-123-028
3.3				1-121-392		393	1-121-995		004	006
4.7				395		396	1-123-255	1-121-246	1-121-759	007
10			1-121-651	398		738	1-121-126	999	1-123-254	008
22			479	480	1-121-662	152	996	1-123-253		022
33			403	404	652	405	997	919		
47		1-121-352	409	410	653	411	1-123-251			
100		414	415	416	357	417	084			
220	1-121-419	420	421	422	261	423				
330	751	805	521	654	655	656				
470	424	425	426	733	361	810				
1000		736	245	657	388	1-123-061				
2200	658	659	660	1-123-067	984					
3300	661	1-121-075	1-123-071							

**** CAPACITOR ****

MYLAR

uF	50V 10%	100V 10%	200V 10%
0.001	1-108-227	1-108-365	1-108-409
0.0012	351	366	410
0.0015	228	367	411
0.0018	352	368	412
0.0022	230	369	413
0.0027	353	370	414
0.0033	232	371	415
0.0039	354	372	416
0.0047	234	373	417
0.0056	355	374	418
0.0063	237	375	419
0.0082	355	376	420
0.01	239	377	421
0.012	357	378	422
0.015	240	379	423
0.018	358	380	424
0.022	242	381	425
0.027	359	382	426
0.033	244	383	427
0.039	360	384	428
0.047	246	385	429
0.056	361	386	430
0.068	249	387	431
0.082	362	388	432
0.1	251	389	433
0.12	363	390	434
0.15	252	391	435
0.18	364	392	436
0.22	254	393	437
0.27	854		
0.33	855		
0.39	856		
0.47	857		

CERAMIC

	pF	Part No.
	0.5	1-101-837
	0.75	586
	1.0	1-102-934
	1.5	1-101-576
	2.0	1-102-935
S	3	936
L	4	937
	5	942
	6	943
	7	944
	8	945
	9	946
	10	947
	11	948
	12	949
	13	950
	15	951
	16	952
	18	953
	20	958
	22	959
	24	960
	27	961
	30	962
	33	963
	36	964
	39	965
	43	966
	47	1-101-880
	51	882
	56	884
	62	886
	68	888
	75	890
	82	1-102-971
	91	972

	pF	Part No.
	100	1-102-973
	110	815
	120	816
	130	1-101-081
	150	361
S	160	367
	180	1-102-976
L	200	977
	220	978
	240	979
	270	980
	300	981
	330	820
	360	821
	390	822
	430	823
	470	824
	510	1-101-059
	560	1-102-115
	630	116
	820	117
	1000	074
	1200	118
	1500	119
B	1800	120
	2200	121
	2700	122
	3300	123
	3900	124
	4700	125
	5600	126
	6800	127
	8200	128
	10000	129

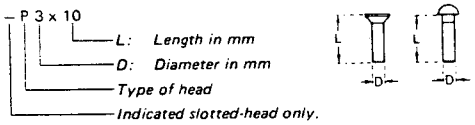
	pF	Part No.
	1000	1-101-001
	2200	002
F	4700	003
	10000	004
	22000	005
	47000	006

1/4 WATT CARBON RESISTORS

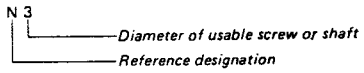
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	